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Math Workshops: A Study of Constructivism, Problem Solving, And Differentiated Instruction

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Poster Presentation ES

**MATH WORKSHOPS: A STUDY OF CONSTRUCTIVISM, PROBLEM SOLVING,
AND DIFFERENTIATED INSTRUCTION**

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This self-study explores the elements necessary for creating math workshops to meet the needs of a diverse group of learners. I aimed to discover the ways math workshops could provide an environment for students to problem solve and construct their own mathematical understanding. I designed three workshops based on the mathematical content being covered and implemented each the day before a quiz in mathematics. Data included the comparison of the plans for the workshop with student achievement on the subsequent quiz along with field notes and reflections. Based on this data, I developed a picture of the most effective workshop format in which prior instruction in problem solving is coupled with collaborative work on tiered and open-ended tasks. Providing whole class instruction to introduce multiple problem solving strategies and familiarizing students with a variety of constructivist tasks ahead of time, math workshops can be a successful tool for differentiating instruction.